REMARKS

Claims 5-9 stand rejected under 35 U.S.C. 102(b) as being anticipated by US patent application publication No. 2004/0162638 (hereinafter Solomon). Claims 10-12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Solomon in view of US patent application publication No. 2002/0136260 (hereinafter Ma). Applicant respectfully requests reconsideration of the rejections and allowance of the present application in view of the following remarks.

Claims 1-4 were previously cancelled. Thus, claims 5-9 remain pending.

Claim 5 is directed to a method for the operation of a technical system. Claim 5 in part recites determining an operating mode or functional mode of the technical system from the temporal behavior the operating parameters using any of various artificial intelligence techniques. Claim 5 recites that the determining of the operating or functional mode of the technical system from the temporal behavior the operating parameters is performed with no model of the technical system.

The Office Communication correctly acknowledges that the technical system refers to a power station. That is, a real-world, physical structure such as one that could be made of bricks and mortar. Then, somehow the Examiner suggests that such a power station is inherently a model. One of ordinary skill in the art would appreciate that a model refers to <u>a representation</u> of a system that allows for investigation of the properties of the system and, in some cases, prediction of future outcomes. One of ordinary skill in the art would appreciate that applicant is not claiming a representation of a technical system but the technical system itself.

The Examiner also errs in reasoning that the claimed use of a neural network *ipso facto* implies that a model of the technical system is present. The Examiner is kindly referred to US patent No. 6,038,556 (Adaptive Autonomous Agent With Verbal Learning) that refers at col. 4, lines 43-49 to Jameson (1993) as having proved that [certain kinds of problems cannot be solved without the use of models or representations of the world. Most neural network architectures have no model component and therefore cannot solve such problems. Those that do (e.g., White & Sofge, 1992) require that the model be specified to a significant (and often impossible) degree by the system developer.] That is, one skilled in the art would appreciate that the fact that one uses artificial intelligence tools (e.g., a neural network) does not necessarily imply that in the

claimed invention a model (i.e., a representation) of the technical system or power station is required. See also I.E.E.E. paper titled "A Wall Following Robot With A Fuzzy Logic Controller Optimized By A Genetic Algorithm" by Braunstingl, R., Mujika, J., and Uribe, J.P. similarly describing that use of artificial intelligence tools (e.g., fuzzy logic, genetic algorithm) does not necessarily require a model of the environment (the walls in this example). Thus, the Examiner is kindly requested to reconsider his understanding of the prior art regarding the claimed invention in view of the foregoing evidence, which directly refutes the reasoning articulated in the Office Communication.

Once again applicant reiterates that Solomon is directed to self-organizing mobile robotic agents (MRAs in a multi-robotic system (MRS). One skilled in the art will appreciate that the MRS of Solomon is a model-based system. Solomon's disclosure is replete with references to this basic requirement of Solomon and a few examples that should suffice are listed below.

Paragraph 28 of Solomon: By decentralizing numerous functions in *a distributed architecture model*, groups of autonomous robotic agents can learn together . . .

Paragraph 37 of Solomon: The "Harness" dynamic *reconfigurable metacomputing model* is a pioneer for this mobile self-organizing MRS hybrid approach . . .

Paragraph 40 of Solomon: Such *a hybrid model* allows for adaptation . . .

Paragraph 41 of Solomon: Why, then, cannot an MRS be developed that emulates, and even transcends, the performance of the animal (and insect) *group model*?

Paragraph 42 of Solomon: First, the application of *Grid computing models* provides an appropriate distributed model for maximizing computation capacity by sharing resources among MRAs in real-time. *This model* can be scalable so that new MRAs can be added . . .

Paragraph 45 of Solomon: Towards a *Hybrid MRS AI Model* . . .

Paragraph 49 of Solomon: Two main *problem solving models* involve . . .

Accordingly, one skilled in the art will appreciate that Solomon fails to describe or suggest that the determining of the operating or functional mode of the technical system is performed with no model of the technical system, as set forth in claim 5. The determination of the operating mode or functional mode of the technical system of the claimed invention is learned from the temporal behavior the operating parameters using any of various artificial

intelligence techniques but is clearly not learned from a model of the technical system. Anticipation under 35 U.S.C. §102 requires that "The identical invention must be shown in as complete detail as contained in the ...claim." (Citations omitted) Accordingly, it is submitted that Solomon fails to anticipate or otherwise render unpatentable claim 5 (and claims depending there from) and this basis of rejection should be withdrawn.

In connection with independent claim 10, it is respectfully noted that Ma fails to remedy the deficiencies of Solomon noted above in connection with the claimed invention. Consequently, claim 10, (and claims depending there from) are not rendered obvious by the Solomon/Ma combination, and this basis of rejection should also be withdrawn.
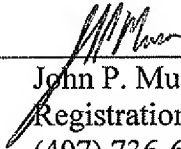
Conclusion

It is respectfully submitted that each of the claims pending in this application recite patentable subject matter, and it is further submitted that such claims comply with all statutory requirements and thus each of such claims should be allowed.

The commissioner is hereby authorized to charge any appropriate fees due in connection with this paper, or credit any overpayments to Deposit Account No. 19-2179.

Respectfully submitted,

Dated: _8/14/08_   By: _____
                                John P. Musone
                                Registration No. 44,961
                                (407) 736-6449

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, New Jersey 08830